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PROFESSOR HUXLEY AND RELIGION

Gresham Lectures
Michaelmas Term, 1904

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TO
WALTER P. NEVILL
A FRIEND INDEED !**

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PREFACE

THE lectures contained in this little book were delivered in the usual course in Gresham College, and are now issued to the public with very great diffidence on the part of the lecturer. He cannot but feel that it is somewhat presumptuous to criticize the opinions and convictions of one who has a reputation in every part of the civilized world, and that perhaps, unknown to himself, fallacies or misconceptions may have crept into his work. Professor Huxley is a man whose name carries with it, and justly, the weight of a great authority. He is one who stands for severe exactness in method, for minute examination of facts, and for a noble courage in seeking and proclaiming the truth, whatever it might cost him. All this adds to the

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influence of his views upon any subject, be it physical science or religion: and there are many who have followed him, so to speak, in trust, because he has spoken. It is enough for them that Professor Huxley's name is attached to the verdict. No one would resent this treatment of his writings as if they were infallible utterances more than the Professor himself. He was a ready and severe critic of others, and was therefore willing to submit himself to the same process.

I do not think that he was hostile to religion, but I do think he was intolerant of any profession of truth which was not the outcome of the methods to which he was so accustomed in his own special sphere of natural science. It was his entire confidence in these methods which led him to make incursions into religion, though he must have known that he had never devoted enough time to that subject to claim the right to be regarded as an expert in it. He was as much

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a novice in theology as most theologians are in science.

It would be impossible, in the short space of four lectures, to treat with any completeness Professor Huxley's attitude to Religion, or to examine in detail his many assaults upon its doctrines. I have confined myself, as far as I could, to one question, namely, whether the application of the method of investigation and proof, illustrated by Huxley himself, to the problem of the origin of the universe, justifies the conclusion that we do not and cannot know anything of its cause,—i.e. Agnosticism ; or whether the hypothesis of a Personal Being, with attributes akin to those of man, is logically sounder and more reasonable. Then I have examined his more definite and dogmatic objections to the latter conclusion or, as I have called it throughout, Theism. And lastly, I have drawn attention to an old truth, that all science is based upon Faith, and tried to explain what this means.

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The lectures were addressed to a popular audience and are printed almost exactly as they were delivered. This must be my excuse for some repetition, which is unavoidable under such circumstances, for the sake of clearness.

I must acknowledge some indebtedness to F. B. Jevons' book on Evolution, which I have used in the fourth lecture; otherwise I am unaware of having availed myself of the works of other writers without having made admission by references. The quotations from Professor Huxley's writings have been taken in all cases from the Eversley Edition of his works, published by Macmillan.

LECTURE I
PROFESSOR HUXLEY AND THE METHOD
OF SCIENCE

LECTURE I

PROFESSOR HUXLEY AND THE METHOD OF SCIENCE

THE attitude towards religion of the men who have gained for themselves a pre-eminence in the sphere of natural knowledge must command the earnest attention, and ought to receive the careful consideration, of those who are teachers of religion, because it is impossible to separate the two spheres of science and religion. For, on the one hand, the knowledge which is derived from the facts of the material world must bear upon religious truth—it must either add to, confirm, or contradict the great body of religious doctrine; because religion holds that the world is a creation of God and the workman is discerned in His work; and, on the other hand,

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those who are engaged in the pursuit of truth gathered from phenomena of man's abode cannot, when they arrive at principles which they regard as conflicting with what is taught by religion, refrain from pointing out the conflict and condemning what they feel assured is not the truth. Religion cannot possibly ignore the teachings of science without fatal results to itself. If we declare that God is the Author and Creator of the world, then we must recognize that the characteristics of His mind will be, to some extent, discerned there ; intellect will leave signs of intelligence, benevolence must create that which is not contradictory of good will. Hence the necessity which forces religion to show that reason pervades the world and is the most acceptable hypothesis of its origin ; hence, too, the necessity of dealing with the great problem of the pain and suffering so manifest in all grades of life. Again, if revelation claims to unveil the nature of God or the processes of creation, or the origin

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and nature of man and his destiny, what is so revealed must harmonize with, or at least not oppose, the story which is told by the earth itself and by the life that is in it. It is too manifest, then, to need to be insisted upon, that religion cannot go on its own way, closing its ears to the statements which the searchers after truth in these realms are constantly publishing.

Religion will never, one may venture to prophesy, be freed from the necessity of giving heed to all that the chief students of natural knowledge teach, for it will have, in however remote a degree, some bearing upon itself. The two realms are inextricably bound up with one another, so that it is hardly possible for the one to proclaim a truth or principle which does not in some way concern the other. If religion makes assertions about the creation of the earth, then it must reckon with geology; anything that it has to say about inspiration and the Bible is at once taken up and criticized by historical

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science ; any quality attributed to God has to meet the test of verification from those works which are assigned to Him.

This task set to religion, of taking up into its view the conclusions arrived at by the various departments of research into the phenomena of the world, presses more strongly upon it at the present time, on account of the great strides and wonderful achievements of natural knowledge in the last century. It is not too much to say that theology is undergoing a revolution through this influence.

The day has gone past when assertions were received without question, even among religious people ; now everything is questioned and asked to submit to the severest tests ; at last we have gone back to the direction of the apostle : " Prove all things, hold fast that which is good." To some extent the rigorous methods of discovery and proof used with such success in the sciences are being forced upon theology, with the result that the queen of sciences, as theology has been called, has

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to re-examine under this penetrating light her whole system. Unsettlement has naturally followed, and it seems to me that we are now passing through this stage. The re-adjustment has not yet been reached, and in the meantime the religious mind feels the disturbance and attributes it, in part wrongfully, to the deliberate attack of science upon religion. I do not believe that in the highest and best minds there is any real hostility against religion itself, but only against what is regarded as either its untrue or unwarranted assertions ; perhaps more often against popular religious conceptions, which, while not altogether false, are stated in terms not carefully accurate. It is a surprising thing that the critics of religious doctrine, who are skilled and trained in severe exactness, and who so much insist upon it in their own departments, do often, when passing judgment upon these doctrines, exhibit a strange carelessness in ascertaining whether what they judge is the highest expression of the truth and not rather

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an antiquated or distorted representation of it. Moreover, they set up an imperious claim for their method of discovering and proving truth ; it is the only method ; and whatever, they say, is not amenable to it or the result of its application, cannot pass for knowledge.

The late Professor Huxley, with whom these lectures deal, was perhaps the strongest advocate of this position, and my object is to set before you, and examine, some of his characteristic attitudes with regard to religion. His is a typical case of an opposition to theology, especially the Christian, on the part of one deeply versed in the science of his day. He bases his opposition upon the truths which his method has discovered for him in Nature and in general upon the ground that this method is inapplicable to the proof of the fundamental axiom of religion, the existence of God as cause of all, and its inability, in short, to disclose to us any information upon that subject. We are all

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the more bound to listen to him, inasmuch as his whole object in life was the discovery of truth, and its publication at any cost. He believed, and everyone agrees with him, that truth can only benefit, and what is false is certain to hurt, mankind. It is impossible to read the story of his life without feeling that it is the story of a sincere and earnest man, who had a profound sympathy with humanity and an ardent desire to help forward their higher education and better their conditions of life. I believe, too, that he was a fair man, who tried hard to understand the position of others, and could to some degree do so. Witness his refusal to ask the Dean of Westminster, at the request of Herbert Spencer, for a place in the Abbey to bury George Eliot. He candidly wrote that he did not consider it would be a right thing for the Dean to do. "George Eliot," he replied, "is known, not only as a great writer, but as a person whose life and opinions were in notorious antagonism to Christian practice in

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regard to marriage, and Christian theory in regard to dogma. How am I to tell the Dean that I think he ought to read over the body of a person, who did not repent what the Church considers a mortal sin, a service, not one solitary proposition in which she would have accepted for truth while she was alive? How am I to urge him to do that which, if I were in his place, I should most emphatically refuse to do?"¹ There is a consideration here displayed for the position of others in a matter of religion which is as honourable as it is rare among her antagonists. But while admitting that Professor Huxley desired to be fair and just and to make all allowances in discussing religious doctrines, which in his later years had a peculiar attraction for him, it must be said at the same time that his views were strangely limited. He could not, or would not, treat Christianity as a whole; he isolated, for instance, portions

¹ *Life and Letters*, vol. ii., p. 287.

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of the Bible, and concentrated all his energies in pulling them to pieces ; at one time the creation narratives, at another the Gadarene swine ; then again he would make an incursion into the composition and literary problems of the Gospels. And here it was he did so much to damage the cause of religion, especially among those who, for want of training and knowledge, failed to detect the weakness of the logic concealed in his clear and incisive language. Indeed, it has been said that “ perhaps hardly any living writer has contributed so much to the common scepticism—the crass unbelief of the day—as Professor Huxley.”

The ease and the futility of this method of dealing with the Christian Faith was pointed out long before the Professor's time by Bishop Butler. Mark Pattison, in his *Essay on Tendencies of Religious Thought in England, 1688–1750*, quotes Dr. Jenkin's *Reasonableness and Certainty of the Christian Religion* : “ There is an excellency in every

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part of our religion separately considered, but the strength and vigour of each part is in the relation it has to the rest, and *the several parts must be taken altogether, if we would have a true knowledge and make a just estimate of the whole.*" The Bishop, in his charge to the clergy of Durham, reiterated this principle. He allowed the ease with which the various details could be adversely criticised and the difficulty of meeting such criticism ; but these details were part of one whole system, they do not stand by themselves, and their entire value is due to the place and relative position which they occupy in the complete scheme.

Now it was just here that Huxley failed, and failed utterly—if not wilfully, then ignorantly. To what have his attacks on single points in Christianity amounted ? Has he explained in any sense this religion ? He has forgotten that its evidence does not consist of any single facts, but of the cumulative results of all. The holes he has picked here and

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there, wherever his fancy directed him, still leave the fabric very much where it was.

It is true that he recognises the principal problem presented by Christianity, for he states it himself in the preface to his volume on Science and Christian Tradition. It is interesting to notice that he was aware that it was one whole, in spite of the fact that he never addressed himself to it as such. Here is his statement: "For myself, I must confess that the problem of the origin of such very remarkable historical phenomena as the doctrines and social organization, which, in their broad features, certainly existed, and were in a state of rapid development, within a hundred years of the Crucifixion of Jesus; and which have steadily prevailed against all rivals, among the most intelligent and civilized races of the world ever since, is, and always has been, profoundly interesting; and considering how recent the really scientific study of that problem, and how great the progress made during the last half-century in supplying

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the conditions for a positive solution of that problem, I cannot doubt that the attainment of such a solution is a mere question of time.”¹

But he has not accounted for the Jew, nor the wondrous power which that strange race has exerted in the history of mankind; he has not even broached the problem of Jesus of Nazareth; he has not discussed how it has come to pass that, to use the words of Mr. Lecky, “it was reserved for Christianity to present to the world an ideal Character, which, through all the changes of eighteen centuries, has filled the hearts of men with an impassioned love and has shown itself capable of acting in all ages, nations, temperaments and conditions; has not only been the highest pattern of virtue, but the highest incentive to its practice, and has exerted so deep an influence that it may be truly said that the record of three short years of active life has done more to regenerate and soften mankind than

¹ Preface to *Science and Christian Tradition*, p. 31.

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all the disquisitions of philosophers and all the exhortations of moralists.”¹

None of these questions—and they are the questions which require answering—have been touched by Professor Huxley; and as for those single and partial criticisms of isolated facts, he seems to forget or ignore that their value and worth and evidence consists in this, I would almost say wholly and entirely, that they are parts of this scheme, and that, however contrary to experience or hard to believe, they are not any more incredible than Christianity itself, which is a fact that cannot be denied or criticised out of existence. Take any one miracle by itself, even the most credible and the least attended with difficulty, cut it free from all its connexions, make it a single, isolated phenomenon, then no one, not even the most credulous, will entertain the possibility of its reality. But put it back in its place in the Gospel narrative, and therefore

¹ *History of Morality*, vol. ii., p. 88.

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into its place in the Christian faith of the centuries, and it wears quite another aspect. This is precisely what Professor Huxley failed to see. His Essay on *The Value of Witness to the Miraculous* is difficult to take seriously. There he relates an account of one Eginhard, who narrates some marvels in connexion with the relics of two Saints. The Professor naïvely tells us of the trickery and lies and fraud with which the whole matter is surrounded, and then asks why, if we do not believe these miracles, should we believe those which are recorded in the Gospels? We answer, simply because their surroundings are different, because they occupy little or no place in the Christian movement, because they have not that weight of evidence on their side which the Gospel miracles derive from their position in the Christian religion, which has had such an immense and still unwaning influence on the race of men. There is no need to say also that we are deterred because of the amount of deception that seems to have been

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successfully practised on the narrator of the wonders, Eginhard himself, which finds no parallel in the Gospels.

This inability to realize that Christianity is one whole scheme, all the parts of which are connected together, and that the whole history of Christianity—its noble ideals, its influence as a reforming force, its civilizing power among all races,—constitutes the evidence for its doctrines and miracles, the inability to realize this is the great weakness of Professor Huxley as a critic of religion.

We might, with justice, say of Huxley, what he is reported to have said about Mr. Balfour and his book on the “ Foundations of Belief ” : “ He ought to have acquainted himself with the opinions of those he attacks. One has no objection to be abused for what one does hold, as I said of Erasmus ; at least, one is prepared to put up with it. An attack on us by someone who understood our position would do us all good—myself included.” ¹

¹ *Life and Letters*, vol. iii., p. 353

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That is precisely what all theologians will regard as very applicable to Huxley. He does not appear to have a clear grasp of the religious position, as maintained by its highest and best exponents. He charges the Christian with believing in demons and particular miracles, and with holding views about the Bible which no Christian scholar holds. We do not believe in demons or in this or that particular miracle, by themselves, but, as I have said so often, we believe them as part of a great system which has established itself among men.

But my object is to deal with this author's fundamental principles as applied to religion, and to that we may now address ourselves. We cannot do better than begin with the method of investigation employed by the physical inquirer. His object is everywhere the same; it is "the discovery of the rational order which pervades the universe; the method consists of observation and experiment (which is observation under artificial conditions) for the determination of the facts of the universe; of

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inductive and deductive reasoning for the discovery of their mutual relations and connexion.”¹ Inasmuch, however, as we are concerned with a definite question, namely, as to whether the method of the physical inquirer can be applied to religion, it will be well to take Huxley’s own illustration of the method, as it is used in problems similar to those presented by religion.

In two essays he devotes himself to this question of method. In the one he deals with Descartes’ *Discourse Touching the Method of using One’s Reason Rightly, and of Seeking Scientific Truth*; but I confess it is somewhat difficult to discover what exactly are the conclusions which he derives from the French philosopher’s principles, except it be a confirmation of the theory now so closely connected with his name—Agnosticism. At any rate, his other essay is more to our point, and moreover, it is so plain and clear, phrased in the writer’s

¹ *Methods and Results*, p. 60.

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best style, that there can be no mistake as to what he intends. However, before I pass to it, it is worth while noting a remark which will be useful in our own times, especially for that class who so easily and readily take up the attitude of doubt in regard to religion, as if that could be a final and fixed position.

“ When I say,” he writes, “ that Descartes consecrated doubt, you must remember that it was that sort of doubt which Goethe has called ‘ the active scepticism whose whole aim is to conquer itself,’ and not that other sort which is born of flippancy and ignorance, and whose aim is only to perpetuate itself, as an excuse for idleness and indifference.”¹ I cannot help thinking that this is a criticism on much of the common scepticism of Huxley’s own day, of which he was more intolerant than of the faith which professed to know so much. There are many who boldly proclaim themselves agnostics, who do not

¹ *Methods and Results*, p. 170.

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know what agnosticism really means and have no idea of the principles upon which it is based, but, nevertheless, accept the attitude of doubt because they are desirous of freeing themselves from the claims and demands which religious faith imposes upon them. For this class Huxley had nothing but contempt.

The second essay is entitled *On the Method of Zadig*, and its importance for us lies in the fact that Zadig's "logic is the foundation of all those sciences which have been termed historical or palaeological because they are retrospectively prophetic and strive towards the reconstruction in human imagination of events which have vanished and ceased to be."¹ I transcribe from the essay itself the incident in Zadig's career which illustrates the method so highly commended by the Professor. Zadig lived a solitary life, devoting himself to the study of nature. He became so acute that he could see differences among ob-

¹ *Science and Hebrew Tradition*, p. 9.

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jects to which the ordinary individual was blind. “ One day, walking near a little wood, he saw, hastening that way, one of the Queen’s chief eunuchs, followed by a troop of officials, who appeared to be in the greatest anxiety, running hither and thither like men distraught, in search of some lost treasure.

“ ‘ Young man,’ cried the eunuch, ‘ have you seen the Queen’s dog ? ’

“ Zadig answered modestly, ‘ A bitch, I think, not a dog.’

“ ‘ Quite right,’ replied the eunuch ; and Zadig continued, ‘ A very small spaniel, who has lately had puppies ; she limps with the left foreleg, and has very long ears.’

“ ‘ Ah ! you have seen her then ! ’ said the breathless eunuch.

“ ‘ No,’ answered Zadig, ‘ I have not seen her ; and I really was not aware that the Queen possessed a spaniel.’

“ By an odd coincidence, at the very same time the handsomest horse in the King’s stables broke away from his groom in the

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Babylonian plains. The grand huntsman and all his staff were seeking the horse with as much anxiety as the eunuch and his people the spaniel ; and the grand huntsman asked Zadig if he had not seen the King's horse galloping that way.

“ ‘ A first-rate galloper, small-hoofed, five feet high ; tail three feet and a half long ; cheek pieces of the bit of twenty-three carat gold ; shoes silver,’ said Zadig.

“ ‘ Which way did he go ? Where is he ? ’ cried the grand huntsman.

“ ‘ I have not seen anything of the horse and I never heard of him before,’ replied Zadig.

“ The grand huntsman and the chief eunuch made sure that Zadig had stolen both the King's horse and the Queen's spaniel, so they haled him before the High Court of Desterham, which at once condemned him to the knout and transportation for life to Siberia. But the sentence was hardly pronounced when the lost horse and spaniel were found. So

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the Judges were under the painful necessity of reconsidering their decision ; but they fined Zadig four hundred ounces of gold for saying he had seen that which he had not seen.

“ The first thing was to pay the fine ; afterwards Zadig was permitted to open his defence to the Court, which he did in the following terms : —

“ ‘ Stars of Justice, abysses of knowledge, mirrors of truth, whose gravity is as that of lead, whose inflexibility is as that of iron, who rival the diamond in clearness, and possess no little affinity with gold ; since I am permitted to address your august assembly, I swear by Ormuzd that I have never seen the respectable lady dog of the Queen, nor beheld the sacrosanct horse of the King of Kings.

“ ‘ This is what happened. I was taking a walk towards the little wood near which I subsequently had the honour to meet the venerable chief eunuch and the most illustrious grand huntsman. I noticed the track of an

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animal in the sand, and it was easy to see that it was that of a small dog. Long faint streaks upon the little elevations of sand between the footmarks convinced me that it was a she-dog with pendant dugs, showing that she must have had puppies not many days since. Other scrapings of the sand, which always lay close to the marks of the forepaws, indicated that she had very long ears ; and as the imprint of one foot was always fainter than those of the other three, I judged that the lady dog of our august Queen was, if I may venture to say so, a little lame.

“ ‘ With respect to the horse of the King of Kings, permit me to observe that, wandering through the paths which traverse the wood, I noticed the marks of horse-shoes. They were all equidistant. “ Ah ! ” said I, “ this is a famous galloper.” In a narrow valley, only seven feet wide, the dust upon the trunks of the trees was a little disturbed at three feet and a half from the middle of the path. “ This horse,” said I to myself, “ had a

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tail three feet and a half long, and, lashing it from one side to the other, he has swept away the dust." Branches of the trees met overhead at the height of five feet, and under them I saw newly fallen leaves; so I knew that the horse had brushed some of the branches, and was therefore five feet high. As to his bit, it must have been made of twenty-three carat gold, for he had rubbed it against a stone, which turned out to be a touchstone, with the properties of which I am familiar by experiment. Lastly, by the marks which his shoes left upon the pebbles of another kind, I was led to think that his shoes were of fine silver.

"All the judges admired Zadig's profound and subtle discernment; and the fame of it reached even the King and Queen. From the ante-rooms to the presence chamber, Zadig's name was in everybody's mouth; and although many of the magi were of the opinion that he ought to be burnt as a sorcerer, the King commanded that the four

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hundred ounces of gold which he had been fined should be restored to him. So the officers of the Court went in state with the four hundred ounces; only they received three hundred and ninety-eight for legal expenses, and their servants expected fees.”¹

The principle lying at the foundation of the method employed by this ancient student of nature is nothing, writes Huxley, “but the coarse commonplace assumption, upon which every act of our daily life is based, that we may conclude from an effect to the pre-existence of a cause competent to produce that effect.”¹ Zadig, arguing from the phenomena which he had examined, arrived at the conclusions that animals corresponding to the descriptions given him by the royal officials actually existed, though he had not seen them. The existence of these animals explained and accounted for the facts before him, therefore he was fully entitled to posit

¹ *Science and Hebrew Tradition*, p. 7.

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their existence. The question of time does not affect the argument. Whether the marks were ten hours old, or ten thousand years, he would have been logically right in connecting the horse and dog with the marks which he had observed on the sand and trees. They were, at any rate, causes competent to produce those effects : they were the reasonable explanations of the phenomena, and no critic could honestly affect a position of ignorance and refuse to accept Zadig's conclusions on the ground that the marks might have been produced by other agencies or several of them acting in combination.

What I contend for is this, that we may be allowed to apply this method to the central problem of religion, namely, the origin of the world and the existence of a rational being as its cause. There are certain definite marks or "tracks," so to speak, in the world which are obvious to every plain man, they are to be found wherever the human intellect has penetrated, on every inch of the

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globe as well as on every portion of the known universe ; they have the same characteristics, the same features, wherever found ; may we not, then, reason on the same lines as Zadig did, and conclude from them to the pre-existence of a cause competent to produce them ?

That will form the subject of our next lecture.

LECTURE II
THE METHOD OF SCIENCE APPLIED TO
RELIGION

LECTURE II

THE METHOD OF SCIENCE APPLIED TO RELIGION

IN the year 1894 Huxley delivered his views on the general character of the nineteenth century, in response to a request for his opinion as to the name which would be given to it by an impartial posterity. "I conceive," he wrote, "that the leading characteristic of the nineteenth century has been the rapid growth of the scientific spirit, the consequent application of scientific methods of investigation to all the problems with which the human mind is occupied, and the correlative rejection of traditional beliefs which have proved their incompetence to

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bear such investigation.”¹ But the Professor has elsewhere stated it as his “conviction that there is only one method by which intellectual truth can be reached.”² He refers of course to the inductive method ; but I suppose he would range under this heading, the Method of Zadig, to which he has devoted a whole Essay, as a preliminary to the demolition of the Book of Genesis. At any rate, it is the method of arguing from effects to causes competent to produce those effects ; and this is legitimate, as he proceeds to show by a rigorous application of it to the problems of geology and palaeontology, the latter being the Science which treats of the classification and distribution in time of the forms of vegetable and animal life embedded in the rocks.

There is no doubt but that this new scientific spirit and method has had a profound influence on the theology of the day ; it has

¹ *Life and Letters*, vol. ii., p. 322.

² *Evolution and Ethics*, p. 126.

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altered many of the traditional beliefs, because they had never been based on any careful or accurate consideration of the facts. But it is certain that no change has taken place, through this influence, on the fundamentals of all religion, and its grand traditional beliefs have not proved their incompetence to bear investigation. They remain as they were.

The question, however, which is to be dealt with in this Lecture is whether the application of Zadig's Method to the problem of the origin of the world justifies Huxley's conclusion of Agnosticism, that we do not and cannot know anything concerning its cause; "that the problem of the ultimate existence is one which seems to be hopelessly out of reach of our powers"; or that of the theist, that it is derived from a personal and rational being—God.

I have stated the nature of our inquiry thus baldly because I am anxious to keep it clear and definite and to prevent the confusion

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which a multiplicity of words might occasion. The statement as it stands is open to criticism ; but if I were to safeguard myself by exercising too much care, I should probably defeat the end I have in view.

Professor Huxley, in the Essay referred to, gives some illustrations of the use of this method ; it will be useful to refer to these and examine the details before I attempt to apply it to the chief problem of religion : the existence of God and the knowledge we can have of His nature from the phenomena of the world.

“ The rigorous application of Zadig’s logic to the results of accurate and long-continued observation, has founded all those Sciences which have been termed historical or palaetiological,¹ because they are retrospectively prophetic, and strive towards the reconstruction in human imagination of events which have vanished and ceased to be.” This is

¹ The science which seeks to explain the past changes of the globe by the continued action of causes still existing.

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the method, for instance, of the comparatively new science of history. That science is concerned with the proper interpretation of documents ; and the student of this department goes upon the assumption that the writings with which he deals were produced by the operation of causes similar to those by which they are produced now. He brings, therefore, to his task all the knowledge he possesses of human nature and of the motives which move men to write. He does as Zadig did. He assumes all along that writings are the products of men very much like the men he knows, that they are striving to tell the truth, to relate events as they appeared to them. We must bring all our knowledge of the present to the interpretation and translation, as it were, of the records of the past.

Geology, again, which is the science concerned with the history of the earth ¹ written

¹ "I conceive geology to be the history of the earth, in the same sense as biology is the history of living beings."—*Geological Reform*, vol. viii., p. 316.

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in the earth's crust, is indebted for its recent successes to the principle that the effects to be deciphered are not the result of unknown causes, such as catastrophes or special efforts of a supernatural power, but rather of the same forces which are still operating, namely, water, heat, friction, frost, gravitation. We can trace the operation of these forces, we can see the effects which they now produce; therefore when we are endeavouring to account for the formations of the earth's surface we need not suppose that forces were at work which are "different in their nature or immeasurably different in their power from those which we at present see in action in the universe." Those already known are sufficient to explain the effects, and though we have not seen and never can see the production of these effects, which were wrought thousands and millions of years back, still, it is logical and reasonable to believe that they are the results of the causes supposed, those, namely, with which we are now familiar. Here

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again geology simply pursues the method of Zadig—it concludes from effects to the pre-existence of causes competent to produce those effects.

May we not follow the very same path in our attempt to explain and account for the world and the living beings which dwell upon it? And will not this method inevitably force us to the conclusion, as indeed the only reasonable one, that the universe exhibits such indications as can only be attributed to a Being possessed of an intelligence and power adequate to produce it?

As first sight there appears to be an insuperable difficulty in the way and one which seems to render the application of Zadig's method to this problem of religion hopeless.

This philosopher, it will be remembered, attributed the marks which he observed on the sand and trees to causes with which he was *already* familiar; he had actually seen horses and dogs, he was well acquainted with the footprints of both, and these gave him the

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clue to the other signs, the traces produced by the long ears of the dog and the dust disturbed on the tree trunks by the long tail of the horse. So in deciphering the history written in documents and that written on the earth's crust. In both these sciences we do nothing but trace effects to causes which we already know to exist and with whose productions we have the demonstration of our own actual observation. In deciphering some ancient document we have no hesitation in ascribing it to human agency, to men like to ourselves and with very much the same objects before them as impel men to write to-day. In accounting for the various formations of the matter of the earth, we know, for instance, that its own internal heat gives rise to those elevations which we call mountains ; that the action of rivers wears away the land and carries down its particles to sea where they are deposited, thus forming the layers or strata which afterwards, by upheaval, form the dry land.

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Here we have causes already known, whose effects we have observed : and all we assume is that these same causes were in operation centuries back, producing similar results to those which they produce at the present time.

It is different, however, in this problem of religion. There we attempt to reason backwards to a cause for a certain effect, namely the universe, but it is a cause of whose *existence* we have no direct evidence. We do not know beforehand that it exists. Is it legitimate and reasonable to hold that there must be a Being who originated all, and argue from the signs which this universe exhibits to the pre-existence of a cause competent to produce those signs ? Or must we resign ourselves to the impotent conclusion of Professor Huxley, that we do not and cannot possibly know anything about such a Being ; and that we are not logically entitled even to posit the existence of such a Being. Is this method of arguing from effects to the pre-existence of a cause or causes competent to

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produce them, limited by the condition that we must already be aware of the existence of such causes and that our only inference is that they operated in the particular case under consideration ? That would seem to be true of the sciences of history, archaeology, and palaeontology instanced by Professor Huxley in his essay *On the Method of Zadig*. But it is not a necessary condition, it does not invalidate the conclusion even where we do not know that the cause assigned is or was actually existent. We have Huxley's own authority for "adding to the stock of definitely acquired truths" the existence of a certain race of people with its special language, of whose existence we have no direct evidence; but we are warranted in definitely declaring that such a race at one time lived on this globe, because it is the only conjecture that can be made to account for the allied nature of certain different languages.

In an essay published in 1890 on the "Aryan Question" his argument is put in

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this way: "But the close connexion of these widely differentiated languages (Sanskrit, Zend, Armenian, Greek, German and Celtic) remains altogether inexplicable, unless it is admitted that they are modifications of a relatively undifferentiated tongue; just as the intimate affinities of the romance languages—French, Italian, Spanish, and the rest, would be incomprehensible if there were no Latin. *The original or 'Primitive Aryan' tongue thus postulated no longer exists . . . and the acknowledgment of its former existence, and of the process of evolution which has brought about the state of things philological, is forced upon us by deductive reasoning of similar cogency to that employed about things biological.*"¹

The problem solved in this case is quite different, of course, from the problem of the cause of the universe, but that does not at all affect the nature of the reasoning process

¹ *Man's Place in Nature and other Essays*, p. 273.

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itself. If the method, in the case of the origin of various related languages, justifies me in arguing back to the existence of one original undifferentiated tongue, which no longer exists ; but which I infer did exist, because such inference is the best and soundest explanation of the facts under consideration ; surely I may posit the existence of a cause to account for certain facts, i.e. the universe, though I have no direct evidence that there actually is such cause. The “scientific imagination” which is “always efficient, if not always an arm of precision,” enables us to make an incursion into this realm of ignorance where we see a chance, and return with the spoils of a “definitely acquired truth” concerning the origin of the universe and all that it implies.

Now that we have a clear grasp of the method upon which Professor Huxley lays so much stress we must seek to employ it as rigidly as possible to the problem of the origin of the world. Our task here, let it be

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said, is not to show conclusively that there must be a Personal Being as the cause of the "tracks" which we discern upon the face of the earth, but only to determine this question whether, if we follow this Method of Zadig, it is more reasonable to conclude in the existence of a sufficient cause, i.e. God, or to conclude that the evidence warrants no affirmation at all and that we must therefore be content to withhold assent to any conclusion, either that there is or that there is not a rational source of all that is ; which is what Professor Huxley means by his agnosticism. A verdict of "not proven," however unsatisfactory, must be the decision of the scientific mind. There is no evidence to turn the scales either way ; in fact, the man who denies that there is a God, is, the Professor thinks, more impertinent than he who professes to tell all about Him. "Of all the senseless babble I have ever had occasion to read, the demonstrations of these philosophers who undertake to tell us all about the

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nature of God would be the worst, if they were not surpassed by the still greater absurdities of the philosophers who try to prove that there is no God.”¹ We must remain, if we would be guided by the canons of sound reason, undecided, our attitude must be one of quiet uncertainty, willing to receive and examine any fresh evidence that may be forthcoming. But is the balance of evidence so nicely adjusted? Or is there no evidence whatever, either way? It is difficult to believe either of these alternatives. I do not imagine that Professor Huxley deliberately believed that there is no scrap of evidence either to prove or disprove the existence of a Supreme Cause. There must be some explanation of the world and human life, and it would be strange if these did not contain some clue to the riddle. If, on the one hand, he holds that the scales are balanced, that evidences for and against are so equal, that no decision is possible, then one wonders how

¹ *Life and Letters*, vol. ii., p. 133.

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what evidence there is can be so nicely appreciated and valued as to warrant the scientific men in asserting that the only sound attitude is—indecision. Let it be understood, then, that it is simply a question of Evidence ; the Agnostic followers of Huxley denied the validity of the evidence in favour of any form of Supernaturalism. Huxley himself has no word to say against the possibility of the existence of God as conceived by the enlightened Christian. “ Looking at the matter from the most rigidly scientific point of view, the assumption that amidst the myriads of worlds scattered through endless space, there can be no intelligence, as much greater than man’s as his is greater than a blackbeetle’s ; no being endowed with powers of influencing the course of nature as much greater than his, as his is greater than a snail’s, seems to me not merely baseless, but impertinent.

“ Without stepping beyond the analogy of that which is known, it is easy to people the cosmos with entities, in ascending scale, until

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we reach something practically indistinguishable from omnipotence, omnipresence and omniscience.”¹ Again and again Huxley assures his readers that he has no objections beforehand to any of the miracles or wonders of religion—it is all along insufficiency of evidence. Give him the same kind of evidence as can be produced for any scientific fact, and he will readily accept whatever is thus witnessed to. But scientific facts are accepted on evidence of very various degrees of strength ; some facts are taken to be true without any shadow of doubt ; others are admitted on probation, they are accepted and acted upon as good working hypothesis till further inquiry either disproves or confirms them. But it would seem that the theory of the Theist to explain the world has in our author’s eyes not even a right to the latter place. An examination of our world yields no evidence of that kind to warrant us in even going upon the hypothesis

¹ *Science and Christian Tradition*, p. 39.

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that God is the Author of it, and awaiting for further experience to make it more and more certain or to destroy it completely. If there is any evidence to show that it is a sound hypothesis, then I hold that Huxley's neutral position of Agnosticism is unsound. Nay, one may go further and still be within the limits of the methods and canons of science, one may, perhaps ought to, accept this hypothesis if there is none other forthcoming—and the true Agnostic has none ; that, as I understand it, is the essence of his philosophy.

But now we may turn to the examination of those marks in the world which, as it were, correspond to those tracks and indications which Zadig observed, from which he was justified in inferring that they were produced by those animals the loss of which caused such disturbance in the royal household.

Without entering into Professor Huxley's theory of knowledge, with which he himself was not always consistent, he holds that the object of modern science is " the settle-

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ment of the question how far the universe is the manifestation of a rational order.”¹ I believe, however, that modern science does not inquire “how far rational order is manifested,” but that it takes for granted at the very outset that the order of the universe is rational. Any other supposition would negative the possibility of any science at all. Its object, I would say, is rather to discover and to describe the rational order which it assumes to prevail throughout.

Modern science regards our world, and all that is upon its surface, animate and inanimate, as intelligible. It contains signs and indications which can be read, which convey information to our minds. It is not a confused jumble, a chaos which is as meaningless as a conglomeration of letters arranged anyhow. “If I come across a children’s alphabet piled upon a table, I do not expect to gain any knowledge from it, because the letters are not arranged, they spell nothing, and are

¹ *Science and Christian Tradition*, p. 62.

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therefore unintelligible. But if I find a book lying open, I at once expect to learn something from it, because its letters are intelligibly arranged, and convey a meaning. Now, this is the same kind of expectation which underlies all our desire to know the outer world—a conviction that it is intelligible, and therefore can be known. And as we put our desire into operation, we find this conviction justified. We find the universe a system of mathematical, mechanical, organic, vital, moral relationships, which are intelligible, and not chaotic. Its letters are arranged.”¹ The triumph of modern science, of which Huxley so often boasts, and rightly, is also the justification of its primary and necessary postulate, that the universe is a system, where rational order maintains ; it is a book which the human mind can read. Huxley “ had no love,” he writes in one of his letters, “ for merely collecting specimens. It was the

¹ *Personality—Human and Divine*, J. R. Illingworth, p. 100.

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engineering side of nature, the unity of plan of animal construction working out in infinitely varying detail, that engrossed him." Indeed, he goes very near making an admission which comes somewhat strangely from one holding the views he did ; but I refer to it because it speaks of nature in some sense as an intelligent agent. A charge was brought against Darwin's theory, that he does not prove that natural selection occurs in nature, but that he assumes it ; that there is no real analogy between selection by men and by nature, for man acts intelligently. To the latter, Huxley replies that it is questionable whether, since nature acts according to definite and invariable laws, " she can be rightly called unintelligent,"¹ and he further points out how she rapidly and easily accomplishes that which puzzles the wisest of men to do with his mere natural appliances. Whether he would say that nature is intelligent or not, at least

¹ *Darwiniana*, p. 76.

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he admits that her work betrays signs of a very high intelligence, and that is all that concerns us.

Now let us apply the method of Zadig to these phenomena. Here we meet with traces of order everywhere ; everywhere we discover arrangement ; the world is like a book, which scientists in all ages have been eagerly reading, never so eagerly, nor with such success, as at the present time. How, then, are we to account for these tracks left on every inch of this globe ? These are effects : may we not follow that principle, “ upon which every act of our daily lives is based, that we may conclude from an effect to the pre-existence of a cause competent to produce these effects ? ” It is true, as I have already pointed out, that we know of no cause capable of producing the stupendous phenomena which this world alone presents : we are not exactly in the position of Zadig, who had already seen the tracks of horses and dogs, and had no difficulty in concluding, when he observed their tracks in

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the little wood, that a horse and dog had passed that way. But as I then stated, Professor Huxley has not altogether confined himself to that restriction in his own application of the method ; he argued back to the pre-existence of a cause which no longer existed and of which he had no other evidence than the effects he was seeking to explain.

How, then, are we to account for the order and arrangement of the world ? How are we to explain the mechanical and engineering constructions which surround us on all hands ? I do not see how we can possibly avoid assuming that there has been as pre-existent cause something possessed of the nature of mind. We know from our own experience the traces which the human mind leaves behind it ; and one of the chief characteristics of such is order, arrangement, intelligibility. Are we not justified, nay, must we not, in following scientific methods, at least make the provisional hypothesis, that the cause of what we observe has as one of its attributes

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something akin to the mind of man ? Or can we assign the whole system of nature to chance ? Anyone who is acquainted with Huxley's writings will know what he thinks of the latter alternative. If he is dogmatic upon any point it is this, that Chance is a cause of nothing, and is the explanation of nothing : not even of the fall of dice after being rattled in a box. It is only another name for ignorance. Well, then, let us ask this authority what remains. He denies that there is any valid evidence for the theistic hypothesis (of course, I have only dealt with one small department of its evidence), even for regarding it as a reasonable working hypothesis. Yet he admits that an omniscient, omnipotent and omnipresent being is quite conceivable ; how will he regard the order which reigns everywhere ? It certainly lends its countenance to the idea of God on the most approved method of science. And yet Professor Huxley held the opposite view very distinctly, not to say dogmatically.

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In a letter addressed to M. de Kerville in the year 1887, he writes: "If I may make another criticism, it is that, to my mind, atheism is, on purely philosophical grounds, untenable. That there is no evidence of the existence of such a being as the God of the theologians is true enough; but strictly scientific reasoning can take us no further. Where we know nothing, we can neither affirm nor deny with propriety."

One is apt to accept the statements of such a light in the world as Huxley, but I am sure he was somewhat unreasonably dogmatic when he asserted so unconditionally "That there is no evidence of the existence of such a being as the God of the theologians." That there is evidence, and scientific evidence too, many men, trained and skilled in the pursuit of truth in the physical world, are convinced. Else, what are we to think of the men of science to-day who are Theists?

Withal Professor Huxley remained an agnostic and died as such, at least so far as

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outward profession went. Whether he had doubts of his position in the closing years of his remarkable career probably no one knows, but it is a curious fact that problems of religion possessed a strange fascination for him, when Nature gave her signs to him that he must follow soon the great road that must be tramped by the feet of all earthly pilgrims. "It is a curious thing," he wrote in a letter to John Morley, "that I find my dislike to the thought of extinction increasing as I get older and nearer the goal." And perhaps more significant still are the lines which, by his own special direction, were inscribed upon his tombstone, though it must be noted that the author of the *Life and Letters* informs us that they were inspired by his robust conviction "that, all question of the future apart, this life, as it can be lived, pain, sorrow and evil notwithstanding, is worth—and well worth—living." But it is doubtful whether any commentator would get that meaning out of them. Here are the lines :—

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Be not afraid, ye waiting hearts that weep ;
For still He giveth His beloved sleep,
And if an endless sleep He wills, so best.

I hope I may not appear over-critical if I say that I cannot see what interpretation Huxley, in his position, could put upon them. To me, they seem to involve the postulate of God and the possibility of a future life. If they do not, then I fail to understand how a man so renowned for his plain and vigorous English and his honesty in the cause of truth, could allow them to be put over his last resting place. Perhaps Huxley was more of a believer in God in the secret depths of his soul than he permitted to be known to the world at large. That certainly is the impression left upon my mind from a perusal of his *Life and Letters*.

LECTURE III

**PROFESSOR HUXLEY'S OBJECTIONS TO
HYPOTHESIS OF GOD**

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PROFESSOR HUXLEY'S OBJECTIONS TO HYPOTHESIS OF GOD.

THE great difficulty which confronts a reader of Huxley's works, who has for his object the attempt to find out exactly why he rejects the hypothesis of God as an explanation of the world, is, that he nowhere addresses himself wholly to a full and clear consideration of it. His attacks upon it are disjointed, and confined to remarks dropped, as it were casually, here and there throughout his writings, now in some elaborate essay, or more frequently in a letter. The weakness of his attitude lies here also. He does not deal with the question as a whole ; he assails single points ; he directs his artillery against one portion of the citadel and imagines that when he has made a breach in one place

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he has destroyed all the fortifications, and that nothing remains but to walk in and take possession, in the name of scientific agnosticism. It is just here, too, that he succeeded in impressing the popular mind with his views. It has been said that no writer of the last century did more in promoting crass unbelief. His success was due to his method of attacking one point only, leaving out of view the difficulties which arise from his own alternative, and altogether ignoring the nature of the theistic problem, that its proof rests not at all on one portion of evidence, but upon a mass of evidences all converging in one direction. Now, the popular mind is not capable of appreciating the intricacies of theological evidence, but it can apprehend, readily and eagerly, the objections which are made to any one particular part. This, as I have already pointed out, seems to me to constitute the chief defect of Huxley's criticism, not only of philosophic theism, but also of its more specialized form, Christianity.

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All along one cannot but feel the immense difficulty of coming to close quarters with this antagonist. He is elusive and subtle. With all his reputation for clearness and incisiveness, there is yet a doubt as to what exactly he means. Does he, for instance, believe in the objectivity of the world, or is he an idealist, regarding objects as merely creations of the mind, with no certainty that these creations correspond to the outside world ? At one time his language implies the former ; at another he tells you not to be deceived, that we are dealing only with symbols. Science, I suppose, believes that there must be some explanation for the whole of nature which will account for its unity and its system in a satisfactory fashion. If we venture to propound the idea of God as the best explanation, whose purposes are working out through it all, then he tells us we are deluding ourselves by inventing an Almighty Man. If we again put forward Christianity as an existing fact as some evidence of the marvels of Christian

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history, Huxley proceeds to assail certain passages in the Gospels which do not seem to him to satisfy his sense of the trustworthy.¹

At one time, he dogmatically asserts that morality is simply a question of expediency ; its principles but the outcome of a long experience as to what is most conducive to happiness and to the welfare of society ;² yet again he declares we ought to defy all consequences, whatever be the cost. Between mind and matter there is a break which cannot be bridged, of this he is certain : but again, he seems to bind them together as cause and effect. With such contradictions meeting you throughout his works, you need not be

¹ See *Quarterly Review*, January 1895.

² "The end of society is peace and mutual protection, so that the individual may reach the fullest and highest life attainable by man. The rules of conduct by which this end is to be attained are discoverable—like the other so-called laws of Nature—by observation and experiment, and only in that way."—Letter to Mr Clayton, vol. iii., p 222.

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surprised if you cannot bring his statements against the belief in God to any definite head. You can never be sure that you have got at his precise meaning, and it would not surprise any one acquainted with his writings, who criticized his views, to discover, if Huxley were now living, a crushing retort in one of the Reviews, if he thought you were a foe-man worthy of his steel.

In spite of this uncertainty which pervades this author's works, I propose in this lecture to deal with the objections lodged against the hypothesis of the existence of a Personal Being, the source and fount of all that is, whom religion calls God.

In a letter addressed to his friend, Sir J. D. Hooker, he refers to the two chief objections made against Darwin's theory, namely, that it introduced "Chance" or that it was atheistic. "Both assertions are utter bosh. None but parsons believe in Chance ; and the philosophical difficulties of Theism are neither greater nor less than they have been ever since

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Theism was invented." It is satisfactory to have the assurance of the greatest exponent of the modern doctrine of Evolution that it does not sanction the conclusion that the present system of things is due to Chance, and that it does not lend its support to Atheism. But if these two hypotheses are ruled out, what remains ? Is there no other hypothesis warranted by the facts ? Or must we remain in a hopeless state of inability to propound any solution of the riddle ? Does the Professor hold that we are not entitled to suggest as such a solution the existence of God, because there are difficulties which as yet cannot be cleared away ? And yet he was an ardent believer in variation, and natural selection, as the best explanation of the method by which existing forms of life have come to their present state, though there is one serious difficulty, which he could not get over and did not as long as he lived. Ardent supporter as he was of Mr. Darwin's hypothesis, he could not ignore the fact that there was no positive evidence to

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show "that any group of animals has by variation and selective breeding given rise to another group which was ever in the least degree infertile with the first."¹ All experiments in this direction have failed, and yet this infertility is a characteristic in nature of different species. He believes that some day evidence will be forthcoming, but still at present there remains this "little rift within the lute." Still, this difficulty did not prevent him from receiving it as the best explanation yet offered. Is there any better account of the order and intelligibility of the world, of the larger design which lies behind the cosmic process, than that offered by Theism? The Professor will not move, he stands firm as adamant in his verdict that we know nothing, that the facts warrant no conclusion at all!

But it is the latter portion of the letter that I wish to emphasize: "The philosophical

¹ *Darwiniana*, p. 74.

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difficulties of Theism now (i.e. since Darwin's theory was published) are neither greater nor less than they have been ever since Theism was invented." I have carefully read all the writings of Huxley which were likely to contain any reference to these difficulties, but I cannot find that any of them are dealt with by him. At most I find criticisms thrown out here and there, chiefly in his letters, usually in his strong dogmatic language, but no attempt to discuss them, nor any indication that he has tried to make himself acquainted with what the acknowledged authorities have said upon the subject. The philosophical problem itself he appears to me never to have faced ; in fact, he was so wrapped up in his own department of physical science that he could not handle the more abstract science of theology ; and when he did venture into that domain he carried with him the habit of attacking single concrete facts, which unfitted him for philosophical inquiry. One has only to tabulate his speculations on the theory

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of knowledge or the nature of human personality to discover a mass of contradictions. In short, Huxley was no philosopher, however great a master he was of the concrete sciences connected with the facts of Nature. What theologians complain of is, that he did not make himself acquainted with the latest and best results of religious thought, but was satisfied to attack the popular religious ideas floating about in the community. These, it need hardly be said, had no claim to scientific accuracy any more than the popular science which Huxley so severely condemned in his criticism upon a sermon of a well-known preacher of the day.¹

Many of his objections to the idea of God will be found to centre round that point where religion and science must meet. If it is maintained that God is the Author and Creator of this world and at the same time a certain intelligible character is attributed to

¹ Canon Liddon. See Essay, *Pseudo-Scientific Realism*.

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Him, at once physical inquirers must come into contact with these religious principles. For nature must then, in its features and methods, present no contradictions to the character of its Author, or else the contradictions must be explained, that is shown to be consistent with the supposed character of God, by taking into consideration other principles. In so far as this cannot be done, so far there is an outstanding objection to the theist's position. God's works may not contradict His nature and character. Hence the importance of the problem of evil and pain to the theologian. Both are admitted facts of life ; can they be accounted for or explained on the principle that the Creator of the world is an infinitely good and beneficent Being ? This is apparently the argument which Huxley intends when he asserts : " It is as impossible, to my mind, to suppose that the evolutionary process was set going with full foreknowledge of the result and yet with what we should understand by a purely benevolent intention,

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as it is to imagine that the intention was purely malevolent. And the prevalence of dualistic doctrines from the earliest times to the present day—whether in the shape of the doctrine of the inherently evil nature of matter ; of an Ahriman ; of a hard and cruel Demiurge ; of a diabolical “ prince of this world ” ;—show how widely this difficulty has been felt.”¹ It is true that in this criticism he has before him the sentimental Deism of a previous age, but it is impossible not to suppose that the reference to “ the prince of this world ” implies that it is an objection to Christian Theism. But if so, it is perfectly harmless. No careful believer in God holds that the “ evolutionary process . . . was set going by a purely benevolent intention.” God’s character does not consist of one attribute alone ; He is not simply a Being who aims only at making his creatures happy. No Theist maintains that. There are other

¹ *Science and Christian Tradition*, p. 55.

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and higher objects to be conserved, and these must rank higher with a moral being than happiness. Justice, truth, virtue, righteousness, come first. The moral government of the world would be given up, and with that our belief that the Judge of all the earth shall do right, if we held that the Maker's intention was to make all happy, regardless of their moral condition ; if, for instance, the bad man was crowned with happiness in life. Bishop Butler pointed this out, in his *Analogy of Religion*. "Perhaps Divine Goodness," he wrote, "with which, if I mistake not, we make very free in our speculations, may not be a bare single disposition to produce happiness ; but a disposition to make the good, the faithful, the honest man happy." Morality must always occupy the highest place in our conception of God. Omnipotence, as is commonly thought, is not the power to do anything anyhow, it is rather the capacity to accomplish anything dictated or permitted by reason and righteousness. Power with

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God is but the servant of infinite wisdom and perfect goodness. I believe that far too much stress has been laid upon the attribute of omnipotence by those who criticize adversely the belief in God. Perhaps they may find some excuse for this in the fact that in popular religion it is the divine quality which is most frequently referred to, if it is not often made the principal feature of God's nature. To Theist and Christian alike there is no such thing as an absolute almighty power, that is, a power unfettered by any principle and free to effect any imaginable thing. Omnipotence with God is virtually a secondary quality. This, as I understand it, is the Christian position, because it believes that Jesus of Nazareth is the Incarnation of God, and yet it admits that He was not omnipotent, that He laid aside His almightiness. But it strenuously maintains His perfect moral nature, His holiness; inasmuch as it recognizes that any flaw in that part of His nature would be fatal to the doctrine of His divinity. In dealing,

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then, with the problem of pain and evil in the world, it is not enough to say that if God were omnipotent He could have prevented it. The object and end of creation must be taken into account, and it is quite justifiable to hold that that end could not be attained without pain and evil entering into the process. J. S. Mill's dilemma, "either God is not omnipotent or He is not perfectly good," is no dilemma at all. It is open for one to believe in God and yet believe that the evolutionary process was set going by a benevolent being, with foreknowledge of the results. Power in any moral being is necessarily subject to the direction of moral principles, and in a perfect being it must be wholly under the control of Reason, Love, and Righteousness.

But it is in one of his letters to Kingsley, to whom he opened his mind more freely on religious subjects than anyone else, that I find one of his firmest opposals to Theism. The letter bears date April 30, 1863. I quote the whole paragraph in which it occurs:—

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“Whether astronomy and geology can or cannot be made to agree with the statements as to the matters of fact laid down in Genesis—whether the Gospels are historically true or not—are matters of comparatively small moment in the face of the impassable gulf between [the anthropomorphism (however refined) of theology and the passionless impersonality of the unknown and unknowable which science shows everywhere underlying the thin veil of phenomena.”¹

“Here seems to be the great gulf fixed between science and theology.”

It is a great pity that the writer did not give more consideration to this statement. One wishes that he had written one of his vigorous essays upon this subject, for it is not by any means clear what meaning he attaches to the terms he uses, or what he intends to express by this terse and abrupt criticism. Perhaps it is unfair to expect more definiteness and accuracy in the contents of a letter written

¹ *Life and Letters*, vol. i., p. 345.

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to a friend ; or it may be that one has no right to seek in a correspondence for a precise exposition of one's views in the same way as you would look for it in the more important pronouncements of an essay, an article in a review, or in a regular treatise. But I take it that Professor Huxley never wrote carelessly, that he was too ardent a worshipper of truth to put upon paper that which he had not thought over and which was not the exact expression of his convictions, especially on a subject which he admitted was a very serious one to himself and to his children. We may assume, then, that we have here the very heart and centre of Huxley's difficulty in accepting the existence of God.

What, then, does he mean by it ? The great objection to theology is not the disagreement between science and the Book of Genesis, though he has devoted several essays to proving that disagreement ; neither is it doubtfulness the Gospel narratives, though again and again he has written upon this subject,

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enough almost to make a good-sized volume ; but it is “ the passionless impersonality of the unknown and unknowable ” which science discovers, though very little has been explicitly written by him on the subject. Surely one has a right to expect that “ this great gulf between science and theology ” should receive a more extended treatment ; at least it was one more worthy of the Professor’s pen than either of the other two, upon which he has expended so much time and paper, and he plainly thought so himself.

Passing, then, over the implicit assumption contained in the statement that what is behind the thin veil of phenomena is unknown and unknowable, which of course is the whole point in dispute, we may very justly inquire what is meant by the “ passionless impersonality ” of this Unknown. Does Huxley intend to assert that there is absolutely no sign in the constitution of the world which can be described in the terms we apply to persons ? Is the treatment we experience at the hands

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of nature totally unlike that which we receive from other men, or the mode in which we are dealt with by the machinery of society ? Is it, for instance, wholly distinct in kind from the manner in which the administrators of the law act towards those who are under trial ? They act impersonally in so far as their business is to administer the law, regardless of the rank, learning, riches, or any other distinction of the prisoner at the bar. Yet all the while it is in one sense a highly personal proceeding from beginning to end. The law is framed by persons, put into exercise by persons, and executed by persons. It is passionless too, for the judges are not to be influenced by emotions or affections. A man has committed a crime, the law assigns its penalty, and however much the law officers of the Crown respect or regard the prisoner, they have to attach the penalty on guilt being proven. Does nature deal with us in a more impersonal fashion than this ? Let Professor Huxley answer this for himself. In a letter written to Kings-

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ley in the autumn of 1860 he discusses two of the reasons upon which the doctrine of human immortality is based: "that the moral government of the world is imperfect without a system of future rewards and punishments. The other is that such a system is indispensable to practical morality." "I believe," he adds, "that both these dogmas are very mischievous lies.

"With respect to the first I am no optimist, but I have the firmest belief that the Divine Government (if we may use such a phrase to express the 'customs of matter') is wholly just. The more I know wholly of the lives of other men (to say nothing of my own) the more obvious it is to me that the wicked does not flourish, nor is the righteous punished. But for this to be clear we must bear in mind, what almost all forget, that the rewards of life are contingent upon obedience to the *whole* law—physical as well as moral—and that moral obedience will not atone for physical sin, or *vice versa*.

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“ The ledger of the Almighty is strictly kept, and every one of us has the balance of his operations paid over to him at the end of every minute of his existence.”¹

And further on in the same letter he makes this truly remarkable statement: “ and it is to be recollected, in view of the apparent discrepancy between men’s acts and their rewards, that *Nature is Juster than we.*”² She takes account of what a man brings with him into the world, which human justice cannot do. If I, born a blood-thirsty and savage brute, inheriting these qualities from others, kill you, my fellow men will very justly hang me, but I shall not be visited with the horrible remorse which would be my real punishment if, my nature being higher, I had done the same thing.”

¹ This would be Professor Huxley’s answer to the question just now occupying some attention in the Press, “Do we get our deserts?” The problem was occasioned by Mr. Hall Caine’s recent novel, *The Prodigal Son*.

² I have italicised these words.

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“The absolute justice of the system of things is as clear to me as any scientific fact.” If this dogmatic assertion of the actual administration of a higher justice than that of man does not imply something which cannot be called impersonal, it is hard to put any meaning upon language at all. To call it a “custom of matter” does not get rid of the personal element. Indeed, it seems to me to admit the action of a being whose justice is so much higher than man’s that we cannot attain unto it; for justice is distinctly a personal attribute, and to find that nature is so nice in her discriminations and so certain in her decisions is not “passionless impersonality” but, according to all canons of reason, very much more. I suppose that Huxley would not maintain that, just because the justice of this system of things is so much more perfect than human justice, therefore we cannot allow it to imply personality.

He writes further in the same letter: “the gravitation of sin to sorrow is as certain as

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that of the Earth to the Sun, and more so—for experimental proof is within reach of us all—nay, is before us all in our own lives, if we had but the eyes to see it.” Have we not here again a further element of personality, namely, morality? and I believe it is as certain as anything can be that we cannot conceive morality apart from personality. Huxley, to use his own remark with regard, I think, to Mansel, is like the man in Hogarth’s picture, sitting on the signboard and cutting it down with a saw.

I need not multiply illustrations from his writings to show how again and again he describes the action of nature in terms which prove that to him, at least, the aspect of this whole system could only be described in terms which revealed no great gulf between science and theology. But it would be well worth while to read his famous and eloquent description of life, in which he likened it to a game of chess between men and a hidden player.¹

¹ The passage will be found in the Fourth Essay in

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Of course it may be replied that he is only personifying nature in these and other pas-

the volume, *Science and Education*. I append it for convenience of readers :—

“Suppose it were perfectly certain that the life and fortune of every one of us would, one day or other, depend upon his winning or losing a game of chess. Don't you think that we should all consider it to be a primary duty to learn at least the names and the moves of the pieces ; to have a notion of a gambit, and a keen eye for all the means of giving and getting out of check ? Do you not think that we should look with a disapprobation amounting to scorn upon the father who allowed his son, or the state which allowed its members, to grow up without knowing a pawn from a knight ?

“Yet it is a very plain and elementary truth that the life, the fortune, and the happiness of every one of us, and, more or less, of those who are connected with us, do depend upon our knowing something of the rules of a game infinitely more difficult and complicated than chess. It is a game which has been played for untold ages, every man and woman of us being one of the two players in a game of his or her own. The chess-board is the world, the pieces are the phenomena of the universe, the rules of the game are what we call the laws of Nature. The player on the other side is hidden from us. We know that his play is always fair, just, and patient. But also we know, to our cost, that he never overlooks a mistake, or makes the smallest allowance for ignorance. To the man who plays well, the highest stakes are paid, with that sort of overflowing

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sages ; but if science reveals only a passionless impersonality behind the thin veil of phenomena, the attempt to personify would be difficult to accomplish, if not impossible. The whole action of nature seems to lend itself with peculiar ease to the language one naturally uses in describing, not impersonal, but personal action.

Once again, in the letter of 1863 written to the same correspondent, Huxley returned to the same kind of objection, only it comes to closer quarters with the Christian position. It is not now that the "Unknown" exhibits a "passionless impersonality," but that there is no evidence that it stands in relation of Father to man. "I cannot see one shadow generosity with which the strong shows delight in strength. And one who plays ill is checkmated—without haste, but without remorse.

"My metaphor will remind some of you of the famous picture in which Retzsch has depicted Satan playing at chess with man for his soul. Substitute for the mocking fiend in that picture a calm, strong angel who is playing for love, as we say, and would rather lose than win—and I should accept it as an image of human life."

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or tittle of evidence that the great Unknown underlying the phenomena of the Universe stands to us in the relation of a Father—loves us and cares for us as Christianity asserts. On the contrary, the whole teaching of experience seems to me to show that while the governance (if I may use the term) of the universe is rigorously just and substantially kind and beneficent, there is no more relation of affection than between me and the twelve Judges. I know the administrators of the law desire to do their best for everybody, and that they would rather not hurt me than otherwise, but I also know that under certain circumstances they will assuredly hang me ; and that in any case it would be absurd to suppose that they had any particular affection for me.

“ This seems to me to be the relation which exists between the cause of phenomena and myself.”

There are two declarations here, one that there is no evidence that the unknown stands to us in the relation of Father ; the other, not

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negative but positive, that as it would be absurd to suppose any affection to exist between judges and criminal, so it would be absurd to suppose any affection between "the cause of the phenomena of the universe and myself." But would it be absurd? I do not think that the absurdity is so manifest as Huxley seems to think. Suppose one of the judges to be the father of the prisoner, who was plainly convicted of murder, assuredly the father would pronounce the sentence determined by the law, though his heart would be broken with inconceivable grief and horror. His position as judge, as one who is entrusted with the administration of the law of the land, would compel him to consign his own son to death. This is an extreme case, but it must often have occurred that a judge has been called to pass sentence on those who have been friends and even relations.

Now though it may be freely admitted that there is no positive and conclusive evidence of distinct personal affection between God and

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ourselves, yet one has to consider whether the nature of the case would admit of such. No one has a right to demand that kind of evidence which is forbidden by the conditions of the problem ; and no one insists more strongly upon this maxim than Huxley himself. In an Essay entitled *Science and Morals* he charges Mr. Lilly with making the outrageous supposition that he believed that the same kind of evidence applied to one department of research equally with another. Mr. Lilly apparently asserted that Huxley put aside as unverifiable everything "which cannot be brought in a laboratory and dealt with chemically." At once the Professor retorts that he does not put aside as unverifiable the truths of mathematics, philology or history, to the utter discomfiture of the said daring critic. Yet Huxley apparently expects something of this kind of treatment of theological truths, and that is probably what Mr. Lilly really meant in the first place. Huxley wants sensible and direct evidence of the fatherly

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relation of God to man ; for he is not content to see any trace of such relation in the fact admitted by himself that “ the governance of the universe is rigorously just and substantially kind and benevolent.” Nay, that it is absurd, even in the face of that fact, to suppose that such relationship exists. I must confess that it seems to me the very extreme of inconsequence to talk of the absurdity of an affection existing where we are treated in a substantially kind and benevolent fashion.

The question, however, remains whether, if we suppose the unknown to be the Father of men, we can, consistently with his other supposed attributes, expect any more marked display of his affection for individuals than that which is already manifested. Looking at this question, then, from a purely theistic standpoint, it would be impossible to prove that, God being what He is supposed to be in His attributes, whether moral or unmoral, clearer indications of affection for man should be seen ; but it is equally impossible to prove

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the contrary. However, this is to be said, that the government of God is exercised over millions of children, and the first necessity is that such government should be just and equitable, that it should betray no marks of weakness, but fairly consider all. Is that object not effected, as far as we can see, in a government by laws which do not vary, and are, so to speak, inviolable? The whole ordering of human life depends upon the fact that the method of carrying on this system of things is by laws, which are nothing else than a description of determined order. It is because we are acquainted with this order according to which events happen that human life can be conducted at all, not to say conducted with comfort and happiness. These laws are rigorously just and fair to all: and this system of the world is to a large extent kind and benevolent. Can we expect more if God has an affection for each individual, and if so, what and how much more? Whether this question can be answered or not, it is certain

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that repeated interference with the regular and established laws in order to show love to single persons would very materially weaken human confidence in the laws of that game which every man has to play. And here I cannot forbear quoting another utterance from Huxley which will not be easily reconciled with the difficulty we are considering. It occurs in that famous passage in which life is likened to a game of chess. "My metaphor will remind some of you," he says, "of the famous picture in which Retzsch has depicted Satan playing at chess with man for his soul. Substitute for the mocking fiend in that picture a calm, strong angel who is playing for love, as we say, and would rather lose than win—and I should accept it as an image of human life." Again, "To the man who plays well the highest stakes are paid, with that overflowing generosity with which the strong shows delight in his strength." It seems, then, that the "governance" of this world is according to laws which, to those who obey them, are

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good and beneficent, to those who break them are not so and cannot be expected to bring blessing ; it seems also that if life is to be carried on happily and well, it can only be because there is method and principle which man can discern, and that this method, which is government by law, must be so fixed and determined that we can wholly and entirely depend upon it. Granted these postulates—and Huxley has upheld them as strongly as any one—it is impossible to see how we could have stronger indications of goodness and love to man on the part of the cause of all phenomena. Affection for man would hardly be shown by arranging that violations of law should not be followed by their consequences, that the judges under certain circumstances should not hang the murderer, to use Huxley's own illustration. It would show rather that human weakness of affection which spares one member of the family to save its own feelings without considering the effects upon the others.

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That nature never does. Whatever the Christian faith of to-day may preach with regard to the forgiveness of sins, I am not aware that there is any warrant in the New Testament for teaching that it means escape-ment from the consequences of our evil actions here on earth ; on the contrary, it insists that what we sow we shall reap. There is such a thing as forgiveness with punishment, and the Old Testament Psalmist seems to have been fully aware of it. I have no doubt that the Prodigal Son reaped the whirlwind which he had sown in the " far country," though his father received him again into his own home without one word of anger and rebuke, rather with much sorrow in his heart that his son must suffer and that he could not deliver him from it.

LECTURE IV
FAITH THE COMMON BASIS OF
THEOLOGY AND SCIENCE

LECTURE IV

FAITH, THE COMMON BASIS OF THEOLOGY AND SCIENCE

SIR ISAAC NEWTON concludes his famous *Principia* with this general statement :
“ The whole diversity of natural things can have arisen from nothing but the ideas and the will of one necessarily existent being, who is always and everywhere, God supreme, infinite, omnipotent, omniscient, absolutely perfect.” About one hundred years later Laplace published his *Mécanique Céleste* and, when presenting it to Napoleon the latter said, “ M. Laplace, they tell me you have written this large book on the system of the universe and have never even mentioned its Creator.” Whereupon Laplace answered, “ Sire, I had no need of any such hypo-

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thesis.”¹ The progress of knowledge seems to have justified Laplace’s decision to put aside any assumption as to the origin and source of the matter and motion with which he was dealing. We should be rather surprised nowadays to find in any of the scientific textbooks on Chemistry, Geology, Biology, or Astronomy, any reference to the Creator ; and whether the religious world deplores that fact or not, the attitude of these sciences and others to that question or “hypothesis,” as Laplace called it, is perfectly consistent. The absence of all such reference in any treatise of science does not commit its author to any opinion ; he may be a devout believer, or he may be an agnostic or atheist ; he is not committed, because the various departments of scientific research have nothing to do with the existence or non-existence of God ; that question, important as it is, does not come within their province. If Astronomy, for in-

¹ *Naturalism and Agnosticism.* Ward.

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stance, defines the boundaries of its own domain, no one can blame it because it does not include some other fields in its enclosure. It may set before itself the discovery and description of the various heavenly bodies, the rate and orbits of their motions, the materials of which they are comprised ; in short, it may seek to give an accurate and full description of the stars and their systems as they actually are; no one, then, can find fault because it does not also include the inquiry whether that order and system is the product of mind or not. She may reply with Laplace, " I have no need of that hypothesis "—that is to say, astronomy can accomplish what she intends without referring in any way to that problem. So the business of Geology is the discovery of the processes by which the formation of the earth's crust has come to be what it is. It affects her inquiry no whit whether we assert that there is a God and that He designed these particular formations, or that there is no God. Neither assertion will help Geology in her task of

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describing the processes which led up to the present state of the earth's formation.

Once again, suppose we accept the theory of Evolution and the account of it given by Darwin, will it therefore follow that we may no longer believe that forms of life now existing in the globe were designed ? It was triumphantly asserted, when Darwin's theory was given to the world, that the old arguments to prove design had one and all received their death-blow. It was impossible, for instance, to go on maintaining that the eye was evidently made to see with ; but I confess I could never quite understand the grounds upon which this was so confidently declared. Granted that the processes were discovered and described by which the eye developed its present perfection or imperfection, that we are able to trace the influences or causes of which it was the result, still there is no proof that these very processes themselves may not have been designed from the beginning to issue ultimately in the seeing eye. The two great

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factors in Darwin's hypothesis, as I understand it, are, First, that while all life tends to produce its like, the child like to its parents, it also gives rise to variations more or less pronounced; and Second, inasmuch as living beings multiply at a very rapid rate, in geometrical proportion, while sustenance is not so rapid, increasing only in arithmetical proportion, therefore there is a competition for the means of supporting life, and those which are best equipped, best suited to their surroundings, will gradually crush out those who are less so. Thus, when, by some unknown means, a useful variation occurs, it will enable its fortunate possessor to survive, while those who lack it will be thrust aside and finally perish. This useful quality will be handed down in virtue of the principle of heredity—and in this way species originate and all the manifold variety of life which swarms on the face of the earth may be accounted for, always provided we have some form or forms of life to begin with. In other words, it seems that

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that kind of life which best fits its environment will survive, at the expense of that kind which does not fit so well ; the environment, in short, is like a mould into which plastic life is poured. May the mould not have been designed ?

Huxley admitted that evolution does not altogether destroy the design argument. “ It is necessary to remember,” he writes, “ that there is a wider Teleology which is not touched by the doctrine of Evolution, but is actually based upon the fundamental proposition of Evolution. That proposition is that the whole World, living and not living, is the result of the mutual interaction, according to definite laws, of the forces possessed by the molecules of which the primitive nebulosity of the universe was composed. If this be true, it is no less certain that the existing world lay potentially in the cosmic vapour ; and that a sufficient intelligence could, from a knowledge of the properties of the molecules of that vapour, have predicted, say, the state of the

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Fauna of Britain in 1869 with as much certainty as one can say what will happen to the vapour of the breath in a cold winter's day.”¹ It remains, then, still an open question whether the primitive arrangement of molecules from which thorough-going evolutionists believe that the whole present state of things has come by orderly processes, has not been designed to produce it. Some may stand to the conviction that the order and intelligibility of the universe implies design, others may assert that to them it has no such implication. Whichever decision is adopted Natural Science is not called upon to decide. It is not her business. What she has to do is to seek to discover and describe “in what way, not with what purpose, animal life has come to assume the various forms in which we know it ; and she can do this, her business, quite well—indeed, better—without discussing such questions.”² Life, assuming the truth

¹ *Darwiniana*, p. 110.

² *Evolution*, by F. B. Jevons, D.Litt., p. 139.

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of evolution, has developed along particular lines, and it would not in any way assist the naturalist in discovering and explaining this development if he were to assume either that it was designed or that it was not. She has, to use, once again, the words of Laplace: "no need of any such hypothesis."

We have reached, then, some such position as this, that it does not properly come within the province of any of the sciences such as Astronomy, Geology, Biology, Physics, or Psychology, to answer that question which to mankind must assuredly be the most important of all: is there a Being who is responsible for this wonderful creation, from whom it issues, and in whose hands we and all living things are; or is there nothing, and are we the highest intelligences? In short, the question which interests mankind most of all, and has always claimed his thoughts, is the primal question, Is there a God? It would be strange, then, if there were no department of research devoted to the solu-

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tion of this problem, with its axioms, and methods, and principles, analogous to those of other sciences and entitled to the same regard and respect as are paid to them. Theology, as its name implies, is the science which has for its subject-matter the solution of this very problem, which has always presented itself to thinking man, and does not cease to vex the mind even of the most pronounced agnostic. But alas ! the claims of Theology to be a science at all are not seriously admitted by many of the great lights in other provinces of knowledge, while they are openly denied by some. Professor Huxley is evidently among the latter ; and indeed, the smallest acquaintance with his works reveals his utter contempt of Theology as a science. “ By science I understand all knowledge which rests upon evidence and reasoning of a like character to that which claims our assent to ordinary propositions. And if any one is able to make good the assertion that his Theology rests upon valid evi-

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dence and sound reasoning, then it appears to me that such Theology will take its place as a part of science.”¹ But we need not be deceived by this frank admission. Huxley rejects the idea that Theology conforms to these conditions; men of science do not assume that it must stand outside this very special enclosure, but they put it out “simply because they are unable to allow that reason and morality have two weights and measures; and that the belief in a proposition because authority tells you it is true, or because you wish to believe it, which is a high crime and misdemeanour when the subject matter of reasoning is of one kind, becomes, under the alias of ‘faith,’ the greatest of all virtues, when the subject-matter of reasoning is of another kind.”²

What the Professor means by this somewhat verbose statement is that it is a crime to accept scientific statements without good

¹ *Darwiniana*, p. 148.

² *Ibid.* p. 148.

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and sufficient evidence, but that Theology regards it as a virtue to accept its own statements upon mere authority, i.e. without sufficient evidence.

Again and again Huxley attacks the theologian in one form or another, holding him up to ridicule, doubting his honesty, if not explicitly, yet implicitly. In his third lecture on Evolution he tells his audience that "scientific men get an awkward habit—no, I won't call it that, for it is a valuable habit—of believing nothing unless there is evidence for it, and they have a way of looking upon belief which is not based upon evidence, not only as illogical, but as immoral."¹ We shall come across other insinuations of this kind presently, but just now we had better try to understand what our critic of Theology regards as "valid evidence and sound reasoning," to which, if Theology will conform, he will admit it into the rank of science. Not only in one of his

¹ *Science and Hebrew Tradition*, p. 65.

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Lectures and Essays, but in several, he insists that "the method of scientific investigation is the same for all orders of facts and phenomena whatever"; with the same reiteration he scorns and rejects Theology because it does not, he is sure, conform to this one scientific method. He refers his readers to J. S. Mill's *System of Logic* for full information of what it is; but in the meantime we shall take his own illustration of it, and return to Mill later. "Suppose you go into a fruiterer's shop wanting an apple. You take up one, and on biting it you find it sour; you look at it, and see it is hard and green. You take up another one and that, too, is hard and green and sour. The shopman offers you a third; but before biting it, you examine it, and find that it is hard and green, and you immediately say that you will not have it, as it must be sour, like those that you have already tried." Nothing can be more simple, and yet you have performed the operation of induction. You find afterwards that hard-

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ness and greenness, in all cases in which you have tried them, indicate sourness in apples. You have experimented under all sorts of conditions as to time and place, and other people have tried also, with the same result. The law is established: "All hard and green apples are sour." This is the grand method of scientific proof; here you have an example of that induction which applies to "all facts and phenomena whatever," which exhibits also, I suppose, the type of "valid evidence and sound reasoning." Now, this needs to be examined somewhat carefully, for it is not such plain sailing as it seems; there is something more implied in that process than Huxley permits his audience or readers to perceive. I may have sampled many green and hard apples and found them to be sour, so may my friends, so, it may be, in all the instances I have heard of; I am therefore fully entitled to say "that in all the cases I have known, hardness and greenness of apples always indicated another

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quality, sourness." But that is not a full induction; the scientific form of the inference must be: "All hard and green apples are sour." Am I warranted in drawing this conclusion from the premises before me? Assuredly not. There may be, somewhere or in some future years, apple trees producing fruit as hard as iron and as green as grass with a flavour sweeter than honey and the honeycomb. I can have no assurance, from the fact that all apples hitherto known or heard of which were hard and green were also sour, that it will always be so. It is probable, it may be highly probable, but it is not by any means certain. I turn then to Mill's *Logic*, to which Huxley refers us for full information on this subject. He gives two illustrations of the same type as that which we have been considering. "To an inhabitant of Central Africa fifty years ago, no fact appeared to rest upon more uniform experience than this, that all human beings are black." They had never seen a white man,

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therefore since all their experience connected black colour with mankind, they assumed, like the apple taster, that all men are black. Again: "To Europeans, not many years ago, the proposition 'All swans are white,' appeared an unequivocal instance of uniformity in the course of nature." They were mistaken: though all the swans they had seen had been white, though for fifty centuries it had been so, yet it was not true; black swans were existing all the time. Mill gives these instances to condemn that very kind of induction which Huxley illustrated in the case of apples as the method of scientific procedure. In order to conclude correctly and validly in Huxley's example that all green and hard apples are sour, I must, as Mill points out, "have reason to believe that if there were in nature any instances to the contrary we should have known of them."¹ Of course, Huxley was well aware of this, or he would not have attained that rank among

¹ *Logic*, vol. i., p. 360.

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the great men of the nineteenth century which he holds. But I have referred to his illustration in order to bring out as plainly and forcibly as I can the true nature of the scientific method of investigation which is adhered to in the accurate study of nature.

We can have nothing upon which to base any truth of science except experience, in the last resort. We have examined particular instances, say, of a cause producing an effect; we find that it always produces the same effect under the same circumstances; we arrive, then, at our conclusion according to the canons of science that this particular cause will always produce the same effect under the same conditions. Can we have any further or any stronger evidence? None. And yet again the question must be asked, On what grounds can we reason from what we know, to that which is still unknown, from the present to the future or even to the fact of which we have no direct knowledge? Our present experience is no guar-

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antee of the future unless we know that the system of things will go on as at present, nor can we reason to the past, unless we assume also that nature conducted herself in the same way then as now. But what proof is there of that? What proof is there that nature is uniform? Remember, Huxley says that science looks upon faith as immoral, that science accepts nothing without valid evidence. Of this proposition, which is the necessary basis of all science and of all the conduct of daily life, we have, Mill and Huxley notwithstanding, no proof except the simple enumeration of instances, which is a very fallible method, as the former carefully points out. But he labours through different chapters of his *Logic* to show that in this particular case the enumeration of instances is sufficient to establish validly the principle of the uniformity of nature. The experience that what has once happened does actually happen again under the same conditions has such wide experience to certify it that

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it attains a probability almost amounting to certainty. It is because of the weakness in the proof of this principle that Huxley admits that "our highest and surest generalizations remain on the level of justifiable expectations; that is, very high probability."¹

Principal Jevons, in his book on Evolution, seems to think that there is no sufficient evidence for this axiom, and that even Huxley's guarded statement, which I have just quoted, begs the whole question. "If we assume," he writes, "that Nature is uniform, then it is probable that what has often happened will happen again. But if we do not assume that Nature is uniform, then the repeated occurrence of a thing does not make it in the least probable that it will occur again." We cannot begin by assuming that Nature is uniform, for science regards it as immoral to accept anything without sufficient evidence; and if we make no assumption either way to begin with, then it would

¹ *Science and Christian Tradition*, p. 205.

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seem that, however often Nature has proved uniform in the past, it makes it no more likely that she will continue so to-morrow. This may be a somewhat extreme form in which to state the position of that principle without accepting which we can have no science. Yet I believe it is substantially correct. If I set out for a walk through a land divided into fields and I discover daisies in all the fields through which I have passed, that experience may raise in my mind an expectation that there will be daisies in the other fields as yet untravelled; but there is certainly no atom of scientific proof, there is no logical and valid evidence that there will be. Huxley, in many places in his works, makes admissions tantamount to this; in other places he seems to have forgotten them. All Physical Science is based upon three postulates. First, the objective existence of the external World; Second, the universality of the law of causation; and Third, that so-called Laws of Nature are true

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for all time. But not one of them is, he admits, "self-evident, nor are they, strictly speaking, demonstrable." In his controversy with Mr. Lilly, he declares: "If there is anything in the world which I do firmly believe in, it is the universal validity of the Law of Causation; but that universality cannot be proved by any amount of experience." Here, at any rate, is one essential postulate of Physical Science which is neither "self-evident" nor "strictly speaking demonstrable," nor can it be "proved by any amount of experience." What then, does the Professor simply take it for granted? It would seem so, for we cannot imagine any other alternative left for him to adopt. Yet he confesses that he firmly believes at least one of them, and we may assume that, since he was such an ardent cultivator of Physical Science, he firmly believed in all three. On what grounds, then, does he believe? I must give his own answer, for no one would dream of foisting it upon him,

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so alien does it appear, and even contradictory, to his many violent assaults upon others, chiefly theologians: "It is quite true that the ground of every one of our actions, and the validity of all our reasonings, rest upon the *great act of faith*, which leads us to take the experience of the past as a safe guide in our dealings with the present and the future."¹ By faith he believes that there is an external world outside his mind, which is real and not simply the fabrication of the mind; by faith he believes that no change can take place in nature without being preceded by circumstances which, if known, would account for the change; by faith he believes that a law of nature is true for all time. Now that, it must be confessed, is not a small creed; it requires a very strong faith to believe in it as firmly as in anything else in the world, and he believes it also without sufficient evidence. It has very serious consequences for its professor, es-

[¹ *Science and Christian Tradition*, p. 243.]

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pecially when he makes excursions, armed with death-dealing weapons, into the region of theology and religion, not to mention the damage it works in the foundations of that religion which, if he did not found himself, at any rate he baptized. In the first essay in the volume entitled *Science and Christian Tradition*, I find the following somewhat scathing sentences, which are plainly aimed at the theologians of his own and previous days. I am not at all concerned in asking whether they deserved the severe judgment or not; all that I cite them for is to show that they recoil upon the writer himself: "It is, we are told, the special peculiarity of the devil that he was a liar from the beginning. If we set out in life with pretending to know that which we do not know; with professing to accept for proof evidence which we are well aware is inadequate; with wilfully shutting our eyes and our ears to facts which militate against this or that comfortable hypothesis; we are assuredly doing our best

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to assume the same character.”¹ No condemnation can be stronger than that. It positively excludes any exercise of faith ; it certainly excludes the acceptance “ for proof, evidence which we are well aware is inadequate,” under the dire penalty of being, in plain words, liars. For the theologian that may be awkward, but at any rate he openly admits that the evidence which he has to offer is not absolutely conclusive ; but that, at least, his conclusions are those to which the available evidence points. He does not suggest, when attacking other positions, that his evidence is entirely valid and conclusive, and leave the general reader to suppose that he accepts nothing except upon adequate evidence, and that faith is entirely obnoxious and wicked.

But the man who accepts the three great postulates of Physical Science which Huxley lays down, one of which, the first, is still a

¹ *Science and Hebrew Tradition*, p. 65.

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matter of hot dispute, without any evidence,¹ much less adequate evidence, would feel very justly wronged if theologians were to attribute to him the attempt to assume the character of his Satanic Majesty. But the recoiling effects of this blow do not end here. They reach to the very heart of his Agnosticism. As I understand him, the principles of this belief are two: "First, in matters of the intellect follow your reason as far as it will take you, without regard to any other consideration"; and Second, "in matters of the intellect do not pretend that conclusions are certain which are not demonstrated or demonstrable." It is this last principle which calls for attention.

Now, I do not know exactly what Huxley meant by the words "demonstrated or demonstrable," but assuredly if they were used in their strict sense, the creed of the agnostic will be extremely limited—at most it will

¹ He calls them postulates.

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include the truths of mathematics. But passing by that, it will certainly exclude much of the science to which Huxley devoted his life, unless one can assume that those conclusions are "demonstrated" which rest upon a foundation confessedly not "demonstrable." Huxley recognizes this difficulty and pleads that though one must make a great act of faith as the foundation of all reasoning—namely, we must "take the experience of the past as a safe guide in our dealings with the present and future"—still, we must not dispense with ratiocination, or I suppose he means evidence, after we have done so; nor, though we must act in bad evidence under pressure, ought we to act on such evidence where there is no pressure. But why must we begin with a great act of faith? I suppose, because if we do not we can have no science. We must in that case voluntarily resign for ever all that immense accumulation of truths which are stored up in the works of inquirers into nature; we must sit

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down and profess an agnosticism which would be universal. But we do not do this; we make the plunge because we do not want to renounce all that science has to give. "We believe," as Principal Jevons says, "because we want to believe, not because we have any evidence." But Professor Huxley seems to maintain that, though we must exercise faith to begin with, in order that we may have science, we must not depend upon faith after that; we must require full and complete evidence for all else except in this particular which he has marked out, and if we do not we are immoral and possibly in one respect like Beelzebub. That is charitable. But why? And who made him the judge in this matter? Surely I may begin with faith in order to have religion, and I may act upon evidence which may be inadequate, because, as Bishop Butler holds, the pressure in religion is great, seeing its possible consequences are so prodigious.

SUPPLEMENTARY

SUPPLEMENTARY

IN the attempt to discuss Professor Huxley's relation to Religion, I have sought to avoid mere points of detail, and to treat the subject fundamentally, that is, on recognized principles I have endeavoured to explain the method of discovery and proof which he himself used in those departments of science which more nearly approach in likeness to the chief inquiry of religion, the existence or non-existence of God.

I believe that the rigid application of this method issues in results which favour the attitude of the Theist rather than that of the Agnostic. I then sought for any definite objections to the hypothesis of the

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Theist, as I have called it, because it was necessary to take these into account, in order to see whether their weight might not destroy the probable conclusion, which was all I was concerned with, as against Huxley's no conclusion at all. These objections were few. For the most part, his difficulties are indefinite—it is rather a repellent attitude which one feels throughout his writings, which it is difficult to formulate or bring to a head. In spite of his repeated declarations that he is not prejudiced or biassed in any way against the Theist's belief, one cannot but be sensible that all through his works he displays a spirit entirely opposed to anything which pertains to the supernatural. He constantly assails every point where he can detect a weakness, and never once does he make an admission, as far as I am aware, that there is anything to be said for the doctrine against which he uses all the power of his knowledge and all the force of his language. Now it must be admitted that it is, to say the

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least, a very extraordinary thing that the belief which is so very widespread, which has occupied the mind of man since he began to think, and which is and has been accepted by men as skilled and renowned in science as Huxley himself, has no real basis, no atom of evidence of any valid kind to justify it. Yet I cannot find any admissions, save that which will apply to almost any belief, that there is no objection beforehand to its possibility. This is merely negative and grants nothing; he yields nothing positive. I take that to be evidence that there was, with Huxley, consciously or unconsciously, a strong bias against this belief, for, as I have said, it would be strange if a belief cherished throughout the most civilized and cultured portions of the race had no positive evidence of some kind in its favour. It is rather a sign of weakness than of strength when an opponent makes no admissions, but adopts the plan of condemning all along the line. I do not venture to make these strictures in

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order to show that Huxley was deliberately hostile to religion—I do not think so ; but with the object of pointing out that he does not seem to have approached the problem with a free and open mind. If that were so, then any weight which his authority lends to Agnosticism must be largely discounted, because it means that he was not an unfettered inquirer. No one is likely to find true those conclusions, which are based upon a cumulation of probable evidences, if he is not wholly open to accept and to act upon the balance of evidence, whichever way it leans.

But still the problem remains, how are we to account for the fact that Professor Huxley's belief was so entirely different from that which the vast majority of his fellows professed ? Is there any explanation to be offered for his failure to arrive at the same conclusions as others who lived in the same world and had before them the same opportunities, the same facts, an environment, in short, which was common to both ? Why

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did he see with such different eyes ? That which seemed and still seems clear and certain to many who were capable of weighing evidence, as he was, presented no certainty or clearness to him. There must, one would think, be some explanation, and no examination of Huxley's attitude with regard to religion would be complete without some consideration of this question, even though no solution can be provided which might not be regarded as very doubtful.

Mr. Illingworth, in his valuable *Bampton Lectures*, devotes some space to the discussion of the question, Why speculative agnosticism seems so plausible ? "Self-communication," he declares, "is of the essence of personality. If, therefore, God be personal, why is He not universally known, why has He not more conspicuously revealed Himself, as such ?" The answer seems to be that it is due to a failure on the part of men to make an effort to acquire that knowledge, and because they have not conformed to the

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conditions which are necessary to the attainment of such knowledge. A student, for instance, who sets out to make himself acquainted with the truths of any science must concentrate his attention upon the subject; he must put away all enticement which will divert his mind; he must train his faculties of observation, and accustom himself to a severe and concentrated effort. All this implies a will and a desire to know; it involves emotional and moral qualities of a high order; it makes a call upon conduct and character, and asks for an enthusiasm which alone makes possible that patience and perseverance without which success is impossible. In short, intellectual qualities are insufficient to gain any adequate knowledge of any science; there must be, in addition, what may be strictly called moral requirements as well, and these latter are as needful for success as the former. Now the question may be asked here, without prejudice, whether the chief apostles of Agnosticism have made

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any real efforts of this kind to know God, whether they have given half the pains to this subject that they have given to those sciences in which they are so proficient, or whether the truth is not all the other way? Have they not, as a matter of fact, simply treated religion as a subject to which they might turn aside now and then when occasion served, or which might be dealt with as a mere corollary of the particular subjects in which they were specially interested? Anyone who sets up a claim to criticize the conclusions arrived at by the learned professors of Geology, Astronomy or Biology, who had not given years of careful and painstaking care to them, would be laughed at, or treated with the utmost indifference.¹ His conduct would be both foolish and impertinent. And

¹ "At the same time it must be admitted that an unprofessional outsider who should venture to attack portions of orthodox scientific doctrine, would be unlikely to meet with so polite a reception as that accorded to me."—Sir Oliver Lodge in the *Hibbert Journal*, October 1904.

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yet it is taken for granted that the veriest novice in theology may venture boldly into that domain and pass judgments upon its conclusions which will be heard with the greatest respect if only he happens to be distinguished in some quite different department of research. It seems to be assumed generally that this science, if I may be allowed to call it such, which deals with the most complex and difficult train of reasoning, which is based upon probable evidences, requiring some skill to weigh and appreciate, which is admittedly the highest knowledge attainable by man, and lastly which appeals to all the faculties of man in their highest states—it seems to be assumed that this science can be entered upon and taken possession of with authority by anyone, with little or no training at all. The absurdity of this assumption is too manifest to be insisted upon.

Further, the necessity of moral requirements becomes more pronounced when the

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knowledge aimed at is wholly personal. It is not an easy matter to attain to a real knowledge, even of a friend. We know many people outwardly, so to speak—their habits, their mode of life, their business capacities, their political views; but we are often very far from any actual knowledge of the true inner nature of one of them. “We may easily idolize, or under-estimate, a man, but to know him as he is—his true motives, the secret springs of his conduct, the measure of his abilities, the explanation of his inconsistencies, the nature of his esoteric feelings, the dominant principle of his inner life—this is often a work of years, and one in which our own character and conduct play quite as important a part as our understanding; for not only must the necessary insight be the result of our own acquired capacities—which will have to be great, in proportion to the greatness of the personality with which we have to deal—but there must further exist the kind and degree of affinity between

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us which can alone make revelation on his part possible.”¹

Character, then, of the highest kind is one of the pre-requisites for attainment of the knowledge of God. It is one of the conditions as needful for success in this science as a trained intellect in any of the natural sciences. We can never truly know that with which we have no affinity. The lower brute creation, for instance, can never understand the higher human creation entirely, because it lacks the capacities to appreciate what it is. Morality is unknown to it, for it has not the faculty which feels the profound difference between right and wrong, and the necessity of moral obligation. Just so there are men who cannot understand pure disinterestedness, they cannot think that others will labour and deny themselves except for some material advantage accruing to themselves; and no one can realize what holiness is, who is unholy himself—there is no point of contact,

¹ *Personality—Human and Divine*, p. 117.

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there is no language in which the one can speak to the other.

The conditions, then, which must necessarily be observed in religious science are not only a determined effort and strong desire for the acquirement of its truth ; but also the purification of character, the deliberate training of the student in the highest moral qualities possible to man. Sin and evil must necessarily be obstacles in the way of acquisition, as indeed they are in every branch of truth ; because they impair all the faculties and dull, if they do not blind, the intellect to the perception of that goodness and holiness of character by which the Divine Being manifests himself to mortal man.

That, as I understand it, is, very briefly, the answer which Mr. Illingworth gives to the question he propounds. Can we apply it in any sense as a solution of the Agnosticism of Professor Huxley ? I believe that in many cases these important requirements are dis-

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regarded and that much of the so-called Agnosticism arises from hasty and immature consideration, and that it is adopted as the result of a very partial and untrained investigation by those who have never really troubled to make careful inquiry into what is to be said in favour of the view they so easily reject. Much of it is due also to moral defects, for "character and conduct are the keys to creed," and we are therefore "more responsible for our intellectual behaviour than is often supposed." We may, of course, point this out in a general way, but it would be quite impossible to apply it in any individual case, not only because it would be highly discourteous and wrong, but because we rarely know enough of the lives of others to warrant us in imputing their creed, or want of creed, to a lack of morals.

The most we are entitled to say, and that, I think, we may justly say, is that Professor Huxley was antagonistic to the supernatural, and that he was so immersed in dealing with

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one particular kind of facts and investigation that he had lost the capacity to appreciate—or indeed, to deal with—abstract and philosophical subjects, such as theology.

But it is possible to trace the effects of his whole-hearted devotion to Physical Science even further than this, and to find that through it he was in the wrong position to interpret the meaning of the world ; he, in fact, approached the problem from the wrong path ; the doctrine of evolution makes that quite clear. No process (and Evolution's cardinal idea is that the world is essentially a growth, a process) can be understood except by reading back into the beginning whatever meanings we have been able to gather from the most advanced stage of the growth which is available for investigation. That, I suppose, is true in the development of any particular organism. The man whose inquiries are always bent upon the roots and stem of the plant will never be able to grasp the meaning and purpose of the plant itself. He may

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acquire much useful and valuable information ; but the key which will unlock its secret remains beyond him. It is higher up. Even the leaves will not tell him, though they, again, will aid very materially in his investigations. It is not till he studies the last, and highest, growth of the tree, the flower, and the fruit, that he can be really said to have arrived at the meaning of the whole. The beginning is only understood by the end. So the student who confines his attention to the regions beneath the fruit, and does not make a careful examination of it as well, must remain in ignorance of that knowledge which will throw most light upon the problems connected with the growth of the tree. His method is wrong, because it is partial. That seems to me to represent very fairly the attitude of Huxley, at least as an interpreter of the larger and more interesting questions concerning the origin and destiny of man and the world. He was a student, all his life, of Physical Science ; he was a naturalist, a biologist, a

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seeker of truth in the living world past and present. His method was to have the objects before him, and to acquaint himself carefully and accurately with all the details before he would venture upon a conclusion. But the life with which he was altogether occupied was that below man, and it chiefly consisted of an examination of what I would call dead life, if I may be excused the contradiction ; the dissection of dead creatures in order to discover their affinities, to trace out that unity of mechanical arrangements in bodies which so attracted him. If he did make incursions into the higher region of human life, it was still the physical and material side which interested him, because in following out his favourite conception of the unity which nature observed in her buildings of life, he wished to show that man was in that respect no exception to this principle. It is true that his scientific studies led him to consider mind in man ; but then it was not psychologically, but rather physically that he

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dealt with it. In short, his premisses were always material facts, that which could be touched and handled, and it was in this realm that his methods were developed and his thoughts trained. The effects of this immersion in the material world can be traced in his speculations. He will not allow himself to be called a Materialist, but he equally repudiates the title of Idealist, though preferring the latter to the former ; yet there is a strong flavour of Materialism throughout his writings ; and when he hints that modern Chemistry has shown the finger-post to the road by which the organic can be made out of the inorganic ; when he suggests that science means “ the extension of what we call matter and causation, and the concomitant gradual banishment from all regions of human thought of what we call spirit and spontaneity ”¹ ;—it is plain that, in spite of his protests, he is more of a Materialist than

¹ *Methods and Results*, p. 159.

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anything else ; or perhaps it would be better to call him a " Naturalist."

The lower regions of life, as I have said, occupied his real studies, and they became, unconsciously, the standpoint from which he judged all else ; it was natural, one might almost say inevitable, that it should be so. He never really gave his mind to the examination of the developed personality of man ; human history does not appear to have attracted him, nor personal relations to have demanded any of his interest. He looked at life from below, not from above, and if it is true that in order to understand any system we must judge it by its highest product, and read backwards from the highest present into the lower past, then we have some explanation of Huxley's failure to rise to any conception of a Supreme Personal Being. The process can only be understood from the end ; and it is one of the principles of Evolution that this world system is one process, culminating, as far as we can see, in man ; therefore man must

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supply the key to the riddle of the world and not a "dissected cockroach."

On earth there is nothing great but man.
In man there is nothing great but mind.

That is the motto which Sir William Hamilton prefixed to his lectures on Metaphysics ; and perhaps if Professor Huxley had given his wonderful talents a little more to that mind and its various mental activities ; its hopes and aspirations ; its unsatisfied longings and strivings after the good and the true ; its inherent seekings after God ;—he might, when he speculated upon the meanings of existence, have risen above the limitations which his methods and his world imposed upon him, and have seen that there was much to suggest, at least, the truth of Theism. But, as Professor Clarke said, it is not surprising that "the man of natural science, working mainly in the world below man, discovered nothing above man, and failed even to find what man has commonly regarded as

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the highest in himself. All this is nothing strange, it is the fruit of the method."

One of Huxley's most interesting contributions to the problems occasioned by the principle of struggle for existence and human life is the celebrated Romanes Lecture delivered in the year 1893. The practical question which he discusses is "to what extent modern progress in natural knowledge, and, more especially, the general outcome of that progress in the doctrine of evolution, is competent to help us in the great work of helping one another?" Evolution in the world below man may furnish arguments to show how the moral sentiments originated, but it equally shows the growth of both the good and the bad, and does not discriminate between them by pronouncing the one set to be higher and more reasonable than the other. In cosmic nature the grand factor is strife and warfare, and those survive who are best fitted to their surroundings, whatever those surroundings may be; but "fitted"

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has nothing to do with good or bad moral qualities. If our hemisphere were to cool again, the fittest would be those suited for arctic regions, lichens, diatoms, and such very minute organisms ; while if the valley of the Thames became hotter, the fittest to survive there would be the inhabitants of the tropical jungles. At any rate, what makes animal evolution successful is the self-regarding method, where each fights for its own hand, and the weakest and incapable are crushed out. That seems to be the principle commended by the fields of life inferior to man in order to progress and advancement. But a study of human society brings Huxley to a totally distinct and opposite principle—namely, that for mankind progress depends upon the effectual checking of this cosmic process at every step and the substitution for it of another process, which helps, not the fittest in respect of their environment, to survive, but the morally fittest, i.e. the best men. Mankind's chance of making headway and im-

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proving will be determined by a course of conduct which repudiates the "gladiatorial theory of existence," and demands that man shall help his fellows and fit as many as possible to survive.

Here, then, is a quite new principle revealed by a study of human society, and one which, though partially contained in the lower domains of life, yet does not occupy such a prominent place there. It is the absolute condition of progress among mankind. Hitherto advancement has been made through the predominant factor of selfish struggle. Now the tables are turned, and that factor must henceforth be relegated to the background, and another, almost its contradictory, take its place, if we are to hope for any continued improvement in human society and its members. "Let us understand, once for all," says Huxley, "that the ethical progress of society depends, not on imitating the cosmic process, still less on running away from it, but on combating it."

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This new and important principle is derived, as I have said, from an incursion into the workings of the highest known products of evolution, made by Huxley as late in his career as the year 1893. He did not pursue it any further, otherwise it might have led to some modifications of his views with regard to religion. For up to this time he seems to have interpreted the world under the light of what he calls the cosmic principle—that is, the universal struggle for existence, maintained by each individual, involving pain, suffering, and death everywhere. That would inevitably colour his speculations concerning the origin of the world and make it difficult to believe that it had as its cause and source a Personal Moral Being, much more that this Being was such a God as Christianity teaches. Indeed, if we try to interpret the meaning of life solely from the standpoint of the animal creation, or even from savage man, it would be, one must admit, quite impossible to arrive at any such con-

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ception as the God of the Theist. But, even granting the evolution hypothesis, its own principles ought to show that this is the wrong method of approach. The purpose of the evolution process must be understood from its highest product, and thus we ought to seek for an explanation of life, not from the principle of selfish struggle, but from the opposite principle, that future development among mankind in society demands self-restraint ; that “in place of thrusting down all competitors, it requires that the individual shall not merely respect, but shall help his fellows”—in short, the Christian principle, that we shall love our neighbours as ourselves. What, then, will that mean ? It will lessen, at least, the difficulty which has always stood in the way of the conception of a benevolent Being as the originator of the universe, for it demands that we shall read His nature from His final purposes rather than from the concomitants of the process by which that purpose is reached. He is,

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then, aiming at these high moral qualities without which mankind cannot attain his ethical best, and the process has now reached that stage at which man must strive to cultivate these possessions, under the penalty of remaining stationary or degrading. It will still be true, however, that all the difficulties are not cleared away. We shall still be confronted by the perplexities aroused by that universal warfare and carnage produced by the cosmic struggle; but the explanations to lighten these are still available and the certainty remains that the primary key for understanding all is man and his moral qualities. Mr. Illingworth, in his *Bampton Lectures*, seems to me to attack the problem from the true standpoint, even on the basis of the modern hypothesis of evolution. Human personality is the highest product of the evolutionary process, therefore it is not only "the highest category under which we can conceive God," but it is also there that we are to find the solution of the problem

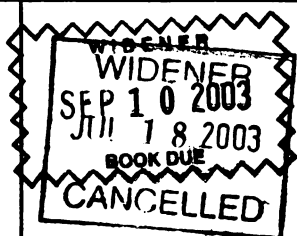
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of the universe. But that point of view was never taken by Huxley. As I have repeatedly said, all his criticisms of the Theist's belief were based upon materials derived from the physical and lower animal regions. Scientifically, it was a partial, if not a complete mistake of method.

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